subjects, it is really an outline text-book, with directions for the practical demonstration of the facts which in an ordinary text-book stand simply as statements on authority. The student who has worked through it should be an expert and well-trained physiologist; if not, he may ask himself if he had not better turn his attention to other things. Unfortunately, the usual college elective does not allow time for making expert specialists, and the teacher who can devote but a short time to experimental physiology is likely to prefer one of the smaller and cheaper books for the direct guidance of his classes, though he cannot afford to allow them to do their work without constant reference to the more comprehensive handbooks, foremost among which stands this of Detmer. T.

Minnesota Botanical Studies. — In January, 1894, *Bulletin No. 9 of the Geological and Natural History Survey of Minnesota* was begun as an occasional serial, the intention being to page the parts consecutively until a volume should be completed. In March, 1898, the twelfth part was issued, completing the first volume of the *Bulletin*. This volume contains fifty separate articles by twenty authors, dealing with a wide range of subjects, by no means confined to Minnesota geographically. It is illustrated by eighty-one plates or maps, and, as completed with its very full index, contains 1093 pages octavo. While unlimited praise cannot be bestowed on all of its contents, it is a valuable addition to the shelves of any botanical library which may be fortunate enough to possess it; but one cannot help wondering at the liberality of the State Survey of Minnesota in allowing so much matter wholly foreign to the usual purposes of such surveys to be published and distributed at the expense of the state. T.

Edible Fungi. — To the already rather copious literature intended to facilitate discrimination between edible and poisonous fungi, Professor Farlow has recently added a small conservatively written article, which has been reissued in pamphlet form from the *Yearbook of the Department of Agriculture* for 1897.[1] Limiting himself to a very few species of both classes, which are accurately and yet tersely described in language which should be readily understood by any person of intelligence, the writer states a few rules which "should not be neglected by the beginner" in the following words: 1. Avoid

[1] Farlow, W. G. Some Edible and Poisonous Fungi. Washington, Government Printing Office, 1898. United States Department of Agriculture, Division of Vegetable Physiology and Pathology, *Bull. No. 15*. 18 pp., 10 pls., 8°.

fungi when in the button or unexpanded stage; also, those in which the flesh has begun to decay, even if only slightly. 2. Avoid all fungi which have stalks with a swollen base surrounded by a sac-like or scaly envelope, especially if the gills are white. 3. Avoid fungi having a milky juice, unless the milk is reddish. 4. Avoid fungi in which the cap or pileus is thin in proportion to the gills, and in which the gills are nearly all of equal length, especially if the pileus is bright colored. 5. Avoid all tube-bearing fungi in which the flesh changes color when cut or broken, or where the mouths of the tubes are reddish, and in the case of other tube-bearing fungi experiment with caution. 6. Fungi which have a sort of spider-web or flocculent ring round the upper part of the stalk should in general be avoided. To these simple rules, the observance of which should prevent any case of serious poisoning, though, as the writer states, it need not be assumed that a fungus is poisonous when it is merely indigestible, in consequence of the way in which it is cooked, numerous exceptions are possible in favor of aberrant edible forms; but they are for experts, and the caution is worth heeding that "the beginner is, of course, under the necessity of following the rules implicitly."

Another recent contribution to the same subject, and likewise an outcome of work done in the first instance in connection with the United States Department of Agriculture, is Dr. Taylor's *Student's Handbook*,[1] illustrated by a considerable number of plates, some of them colored, and containing recipes for preparing and cooking fungi, in addition to the customary keys and descriptions. T.

Natal Plants. — Under this title J. Medley Wood and Maurice S. Evans have begun the publication of a series of descriptions and figures, in quarto, of the indigenous plants of Natal, with notes on their distribution, economic value, native names, etc. The first part, recently issued, contains fifty figures and descriptions.

Professor Weed's Seed-Travellers[2] is one of the helpful little books designed to aid in nature-study, and if, as the author recommends, it is used in connection with observations upon the specimens it describes it can be made very useful. The illustrations, about half

[1] Taylor, Thomas. *Student's Handbook of Mushrooms of America, Edible and Poisonous.* Washington, A. R. Taylor, 1897, 1898. 8°.

[2] *Seed-Travellers, Studies of the Methods of Dispersal of Various Common Seeds.* By Clarence Moores Weed. Boston, Ginn & Co., 1898. 12°, pp. 53, ff. 36.